d) Suppose $A = e^{B}$ and $\tilde{B} = -B$.

Then $\tilde{A} = \widetilde{\left(\sum \frac{B^n}{n!}\right)} = \sum \frac{\tilde{B}^n}{n!} = e^{\tilde{B}}$.

But $\tilde{B} = -B \Rightarrow e^{\tilde{B}} = e^{-B} = A^{-1}$.

$\therefore \boxed{\tilde{A} = A^{-1}}$

e) Suppose $A = e^{iB}$, and $B^{\dagger} = B$.

Then $A^{\dagger} = \left(\sum \frac{(iB)^n}{n!}\right)^{\dagger} = \sum \frac{\{(iB)^{\dagger}\}^n}{n!}$

$= e^{(iB)^{\dagger}} = e^{-iB^{\dagger}}$. But $B^{\dagger} = B \Rightarrow$

$e^{-iB^{\dagger}} = e^{-iB} = A^{-1}$.

$\therefore \boxed{A^{\dagger} = A^{-1}}$